| | Application No. | Applicant(s) |
|---|---|---|
| **Notice of Allowability** | 10/040,115 | ASANO ET AL. |
| | Examiner | Art Unit | |
| | Natalia Figueroa | 2651 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment after final (30 November 2004)*.

2. ☒ The allowed claim(s) is/are *1 and 7-9*.

3. ☒ The drawings filed on *03 January 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None  of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

       Paper No./Mail Date _____ .

    **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

## REASONS FOR ALLOWANCE

*Allowable Subject Matter*

1.      Claims 1 and 7-9 are allowed.

2.      The following is an examiner's statement of reasons for allowance:

RE claims 1 and 9, he prior art of record, and in particular Tetsuya (EPO 0481752 A1),

fails to teach or suggest a method and associated apparatus comprising (a) generating sector level

check bytes for each sector in the block responsive to the data bytes in each sector according to a

first level of an error correction code, and except when the write command is fragmented and is

less than or equal to one multi-sector block of data bytes, generating block level check bytes for

at least one sector in the block responsive to the sector level check bytes of at least two sectors,

including the at least one sector, according to at least a second level of the error correction code.

RE claim 7, he prior art of record, and in particular Tetsuya (EPO 0481752 A1), fails to

teach or suggest a method comprising (b) processing the block to detect and correct data bytes in

error in each sector within the capability of the sector level check bytes, to detect and correct

data bytes in error in the at least two sectors that exceed the correction capability of the sector

level check bytes but within the correction capability of the block level check bytes, or to

indicate that the data bytes in error in the at least two sectors exceed the correction capability of

each of the sector level check bytes and the block level check bytes; (c) receiving logical block

addresses (LBAs) from a host operating system for each write/read command, wherein the LBAs

are translated into physical locations within blocks located on a track of a moving storage

medium of a data storage device; (d) controlling the step of generating when writing data bytes

responsive to the LBAS; and (e) controlling the step of processing when reading data bytes

responsive to the LBAS.

RE claim 8, the prior art of record, and in particular Tetsuya (EPO 0481752 A1), fails to

teach or suggest a method comprising (a) receiving logical block addresses (LBAs) from a host

operating system for each write command and each read command, wherein the LBAs are

translated into physical assignment of each sector to corresponding blocks on tracks on a moving

storage medium of a data storage device, wherein an integral multiple of blocks are written on

each track; (b) writing data bytes to the moving storage medium responsive to the LBAs,

wherein the step of writing further comprises the step of (b1) generating sector level check bytes for

each sector in the block responsive to the data bytes in each sector according to a first level of an

error correction code, and generating block level check bytes for at least one sector in the block

responsive to the sector level check bytes of at least two sectors, including the at least one sector,

according to at least a second level of the error correction code; (c) reading data bytes from the

moving storage medium responsive to the LBAs, wherein the step of reading further comprises

the step of (c1) processing the block to detect and correct data bytes in error in each sector within

the capability of the sector level check bytes, to detect and correct data bytes in error in the at

least two sectors that exceed the correction capability of the sector level check bytes but within

the correction capability of the block level check bytes, or to indicate that the data bytes in error

in the at least two sectors exceed the correction capability of each of the sector level check bytes

and the block level check bytes.

3.      Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for   ·

Allowance."

*Conclusion*

4.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Natalia Figueroa whose telephone number is (703) 305-1260.

The examiner can normally be reached on Monday - Thursday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Sinh N. Tran can be reached on (703) 305-4040. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SINH TRAN
SUPERVISORY PATENT EXAMINER

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